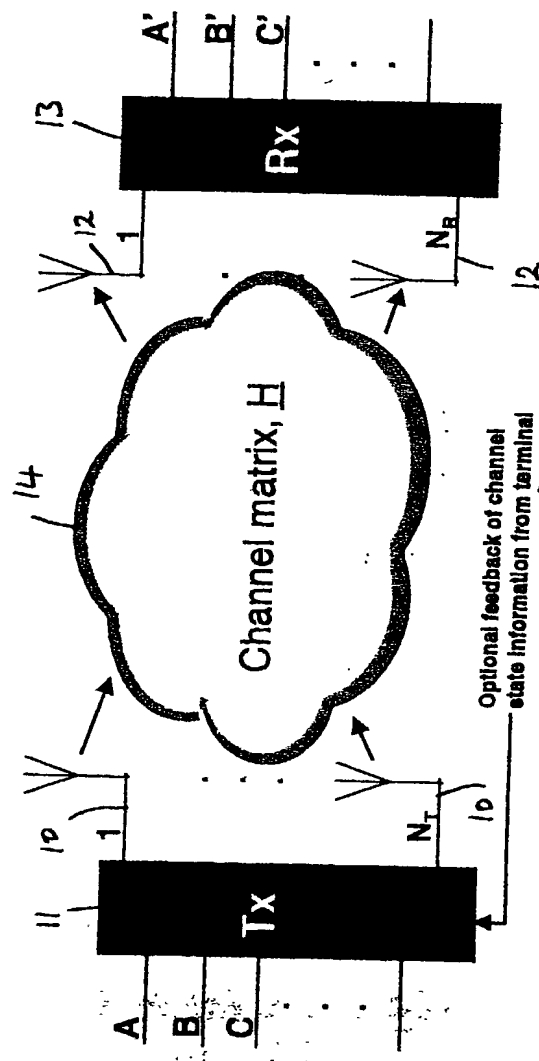


11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

#3

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PRIOR ART

FIGURE 1

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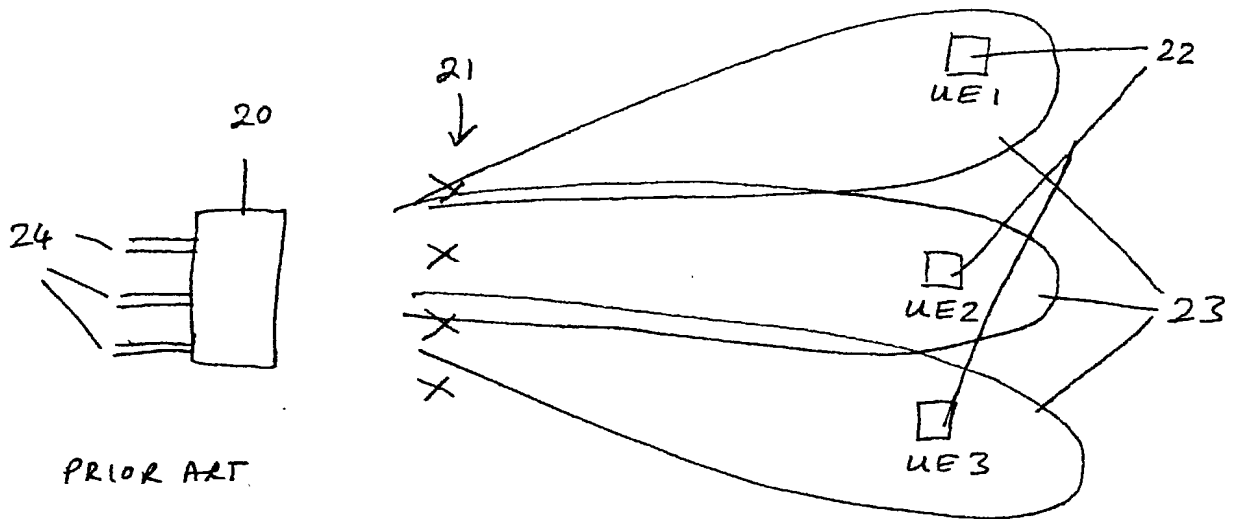


FIGURE 2

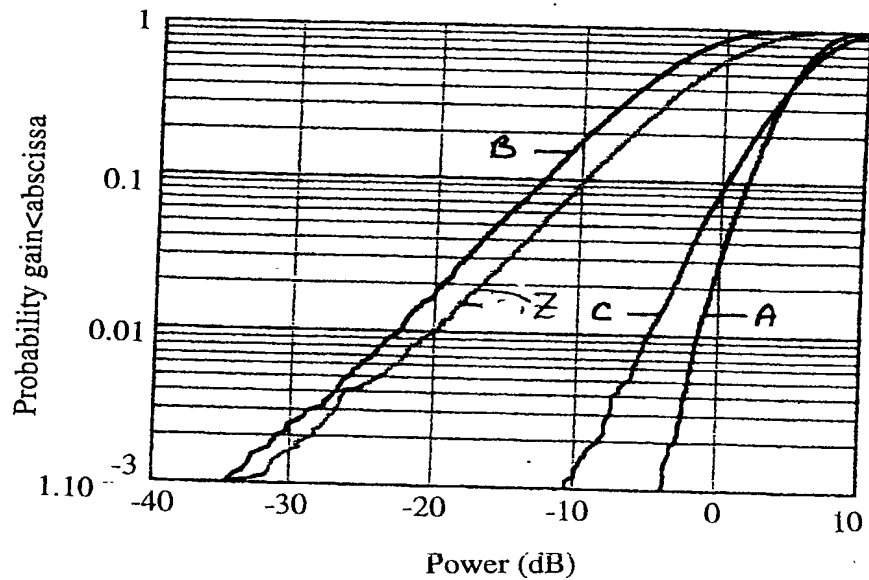
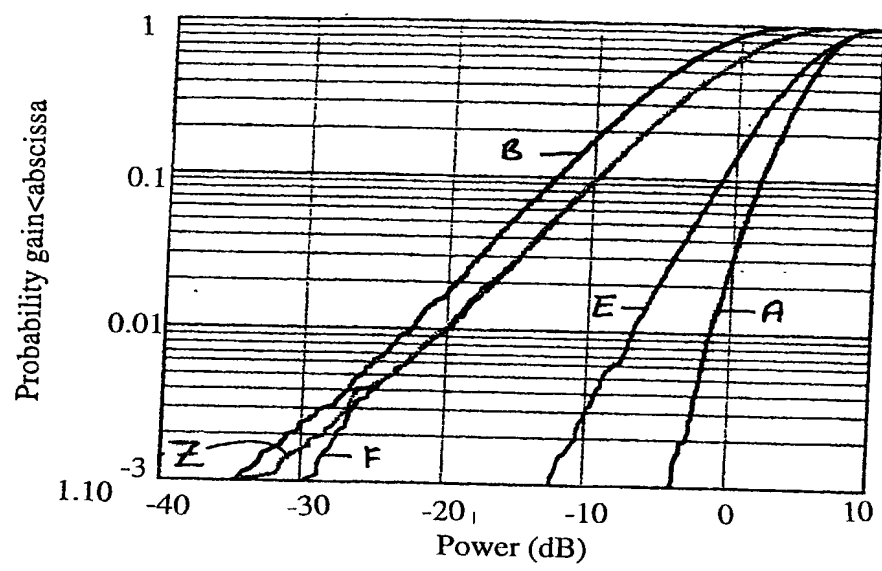


Figure 3

- A Max channel, no correlation
- B Min channel, no correlation
- C Max channel, complete correlation
- D Min channel, complete correlation (not present)
- Z Baseline 1:1

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- A Max channel, polarisation diversity, full polarisation conversion
- B Min channel, polarisation diversity, full polarisation conversion
- E Max channel, pol'n diversity, no polarisation conversion
- F Min channel, pol'n diversity, no polarisation conversion
- Z Baseline 1:1

Figure 4

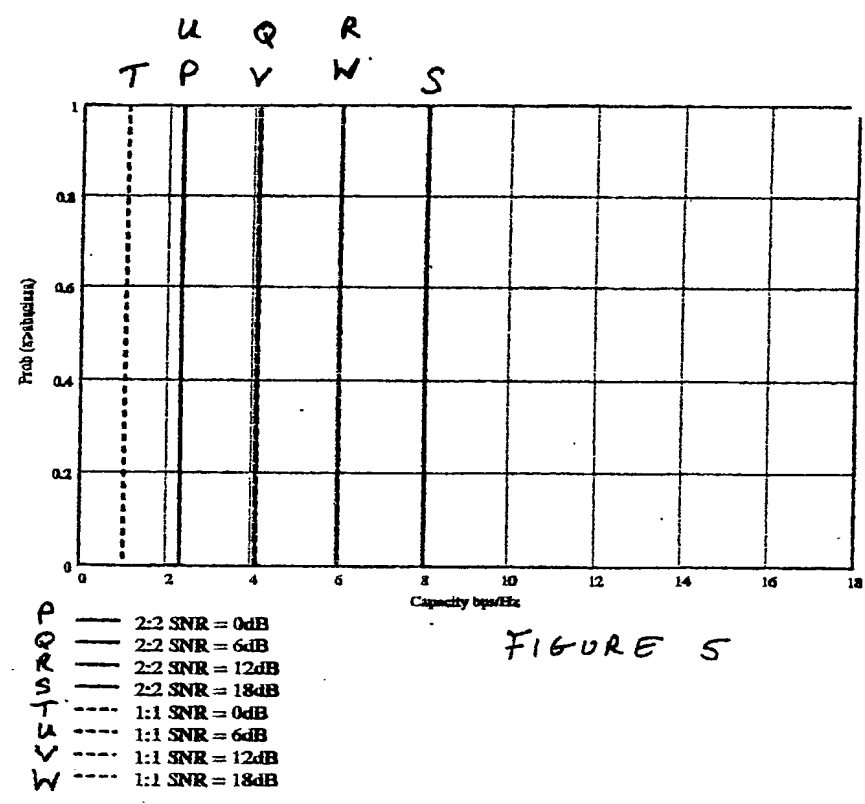


FIGURE 5

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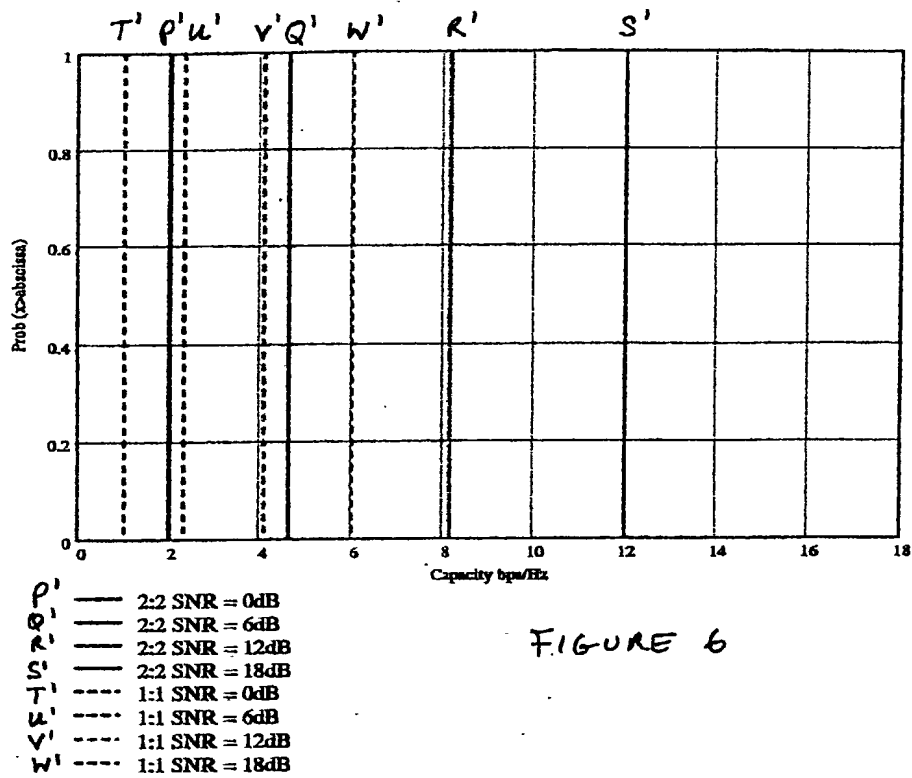


FIGURE 6

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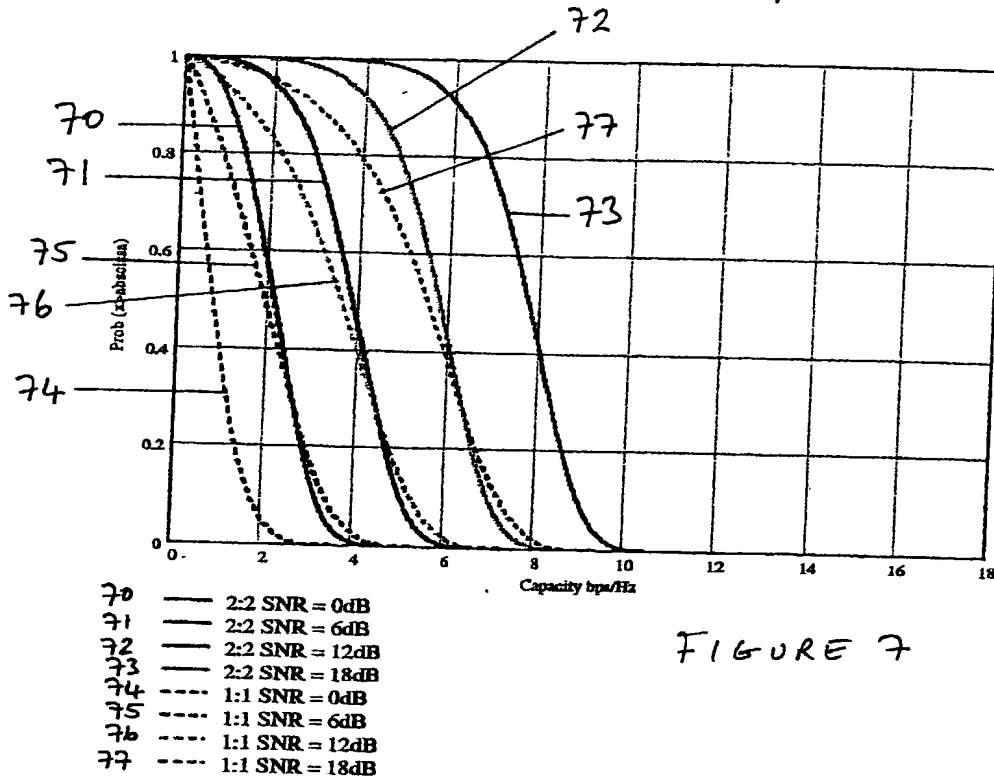


FIGURE 7

Figure 7 - Capacity for 2:2 space diversity MIMO system with the basestation antennas (transmitter) completely correlated and the mobile completely uncorrelated.

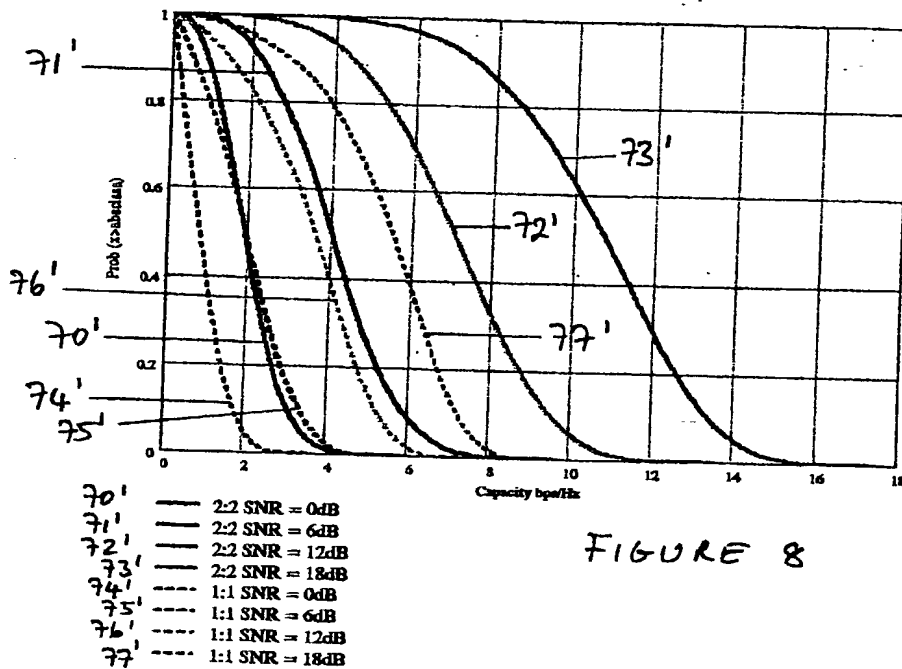


FIGURE 8

Figure 8 - Capacity for 2:2 polarisation diversity MIMO with no polarisation conversion in the environment

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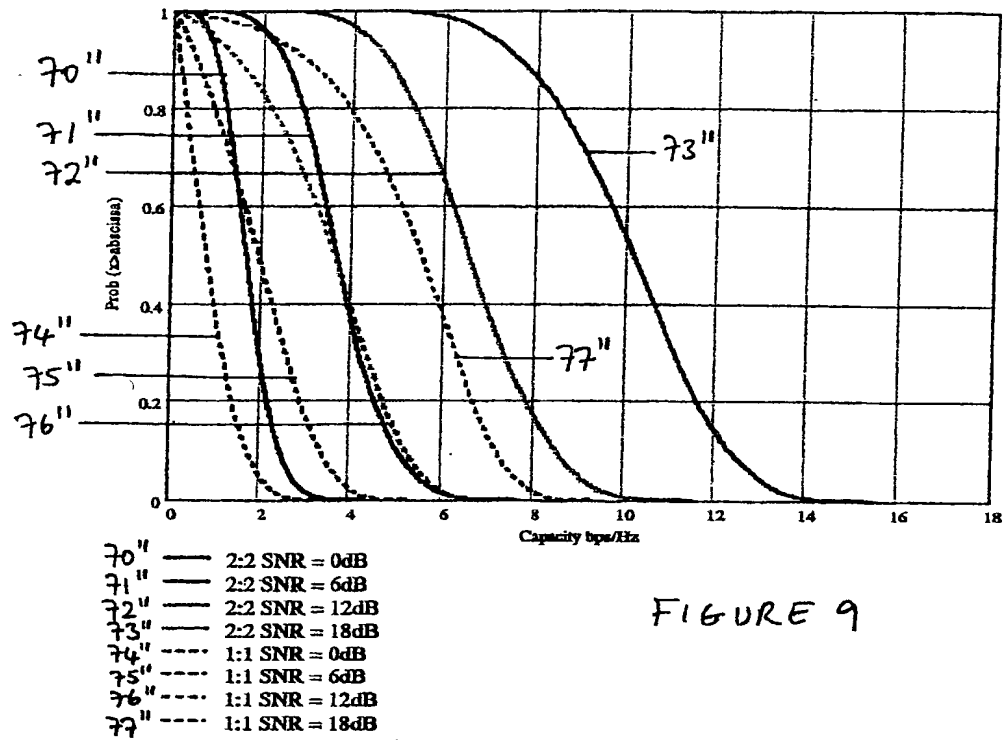


FIGURE 9

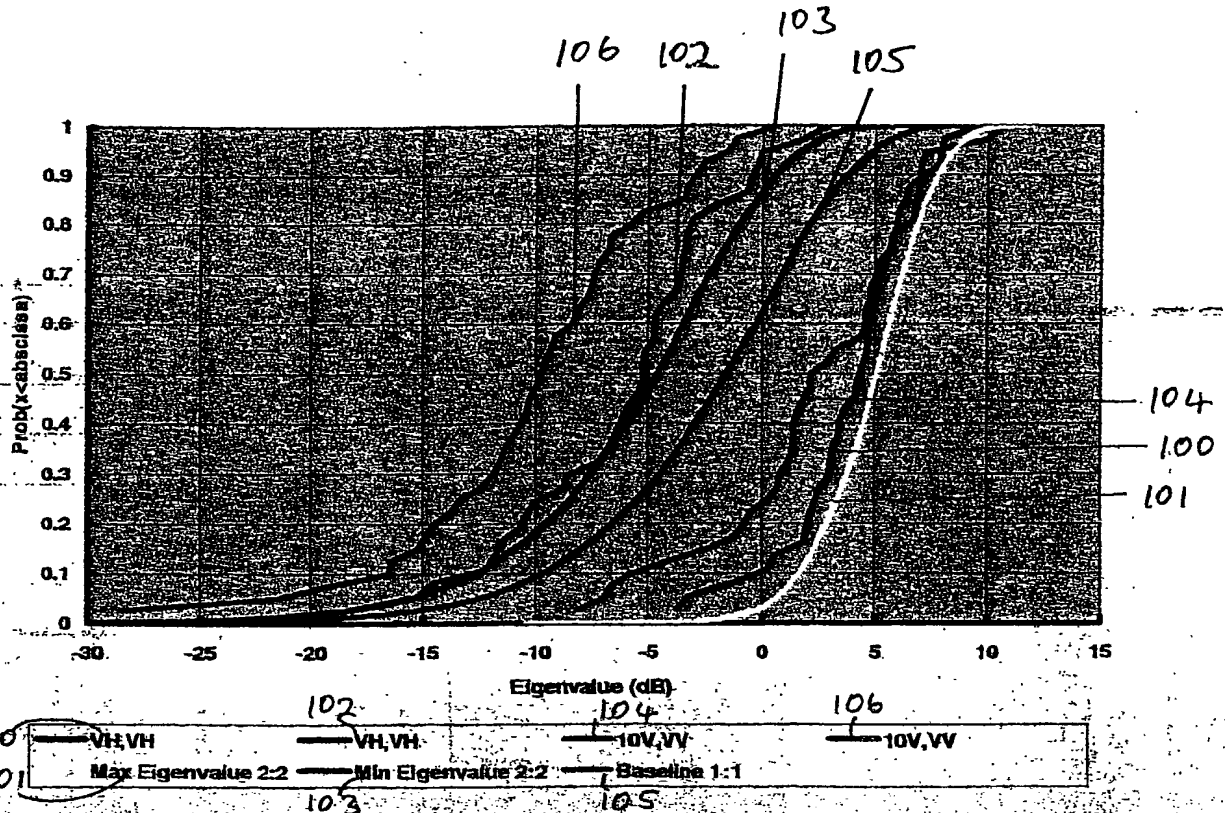


Figure 0-10 - Measured distributions for the power gains for the orthogonal MIMO paths for 2:2 space and polarisation diversity configurations.

FIGURE 10.

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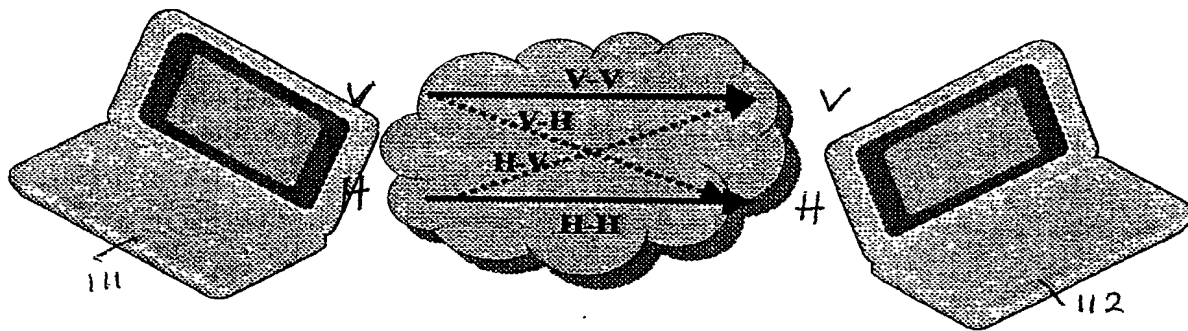


FIGURE 11

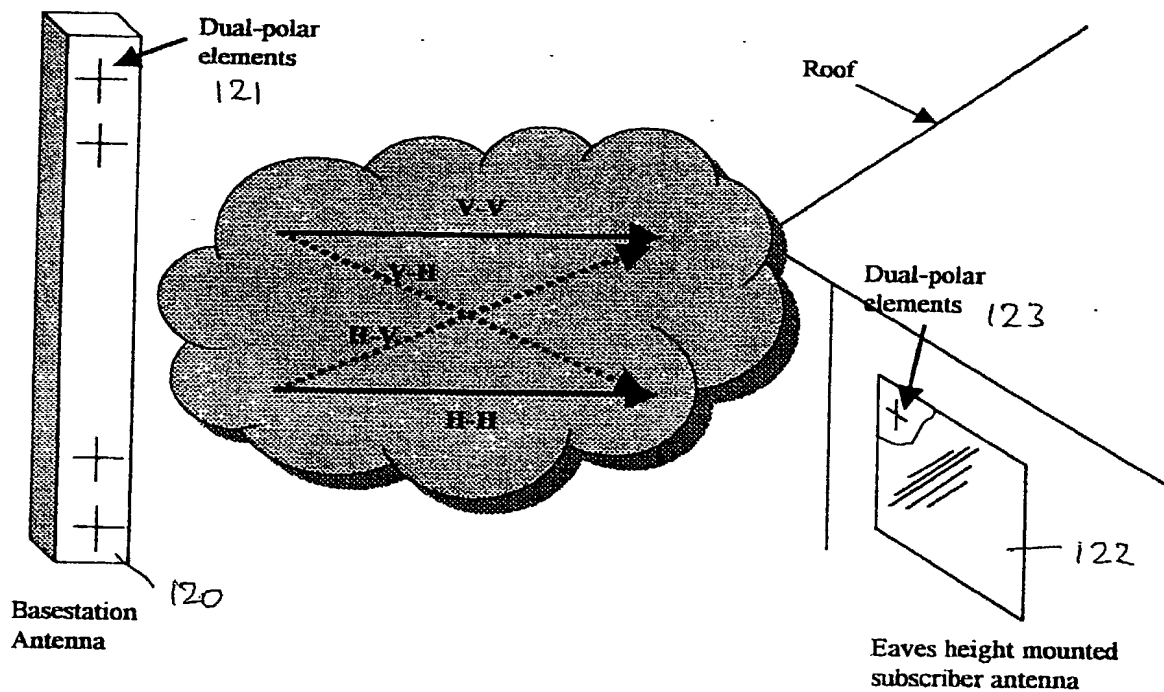


FIGURE 12

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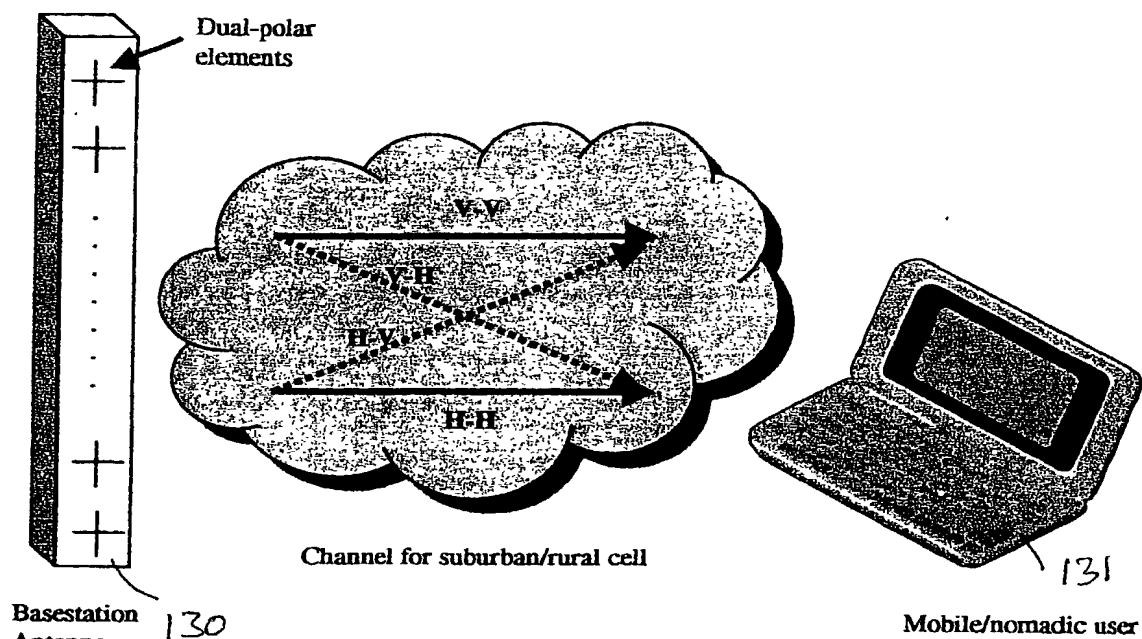


FIGURE 13

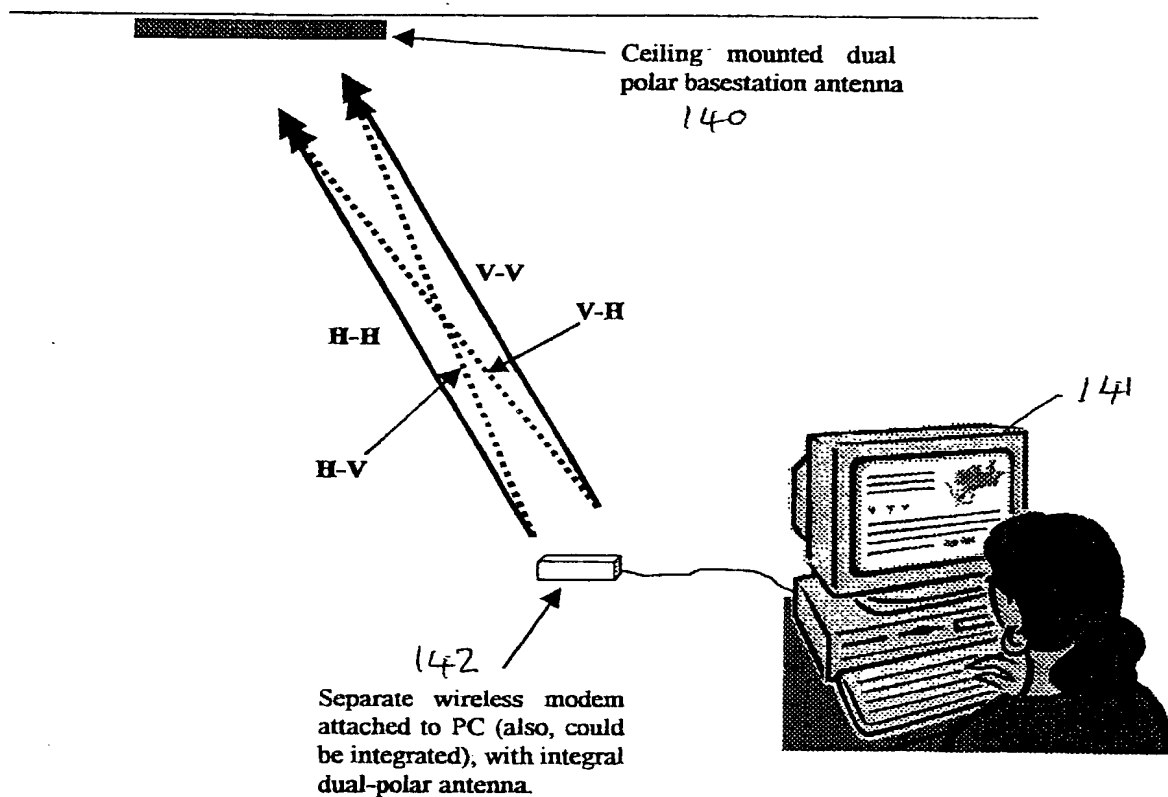


FIGURE 14.

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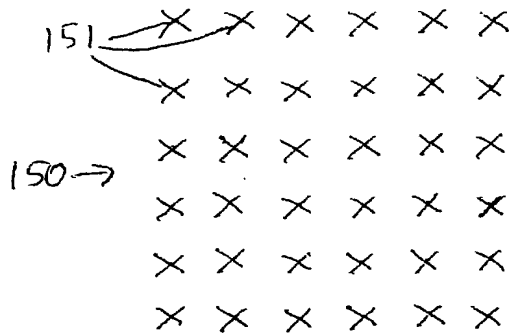


Fig 15 A

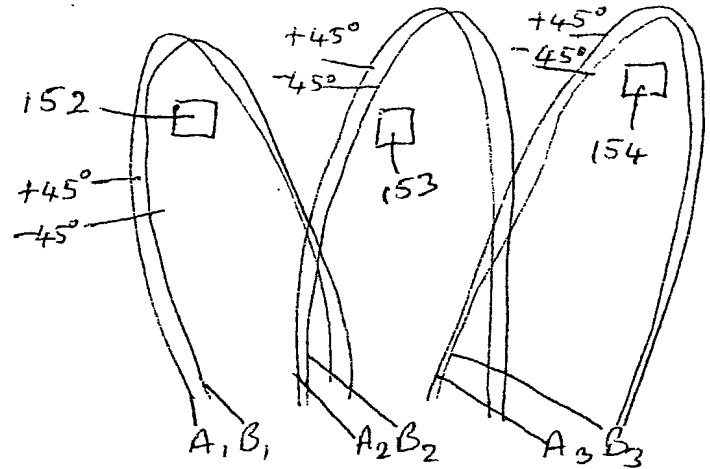


Fig 15 B

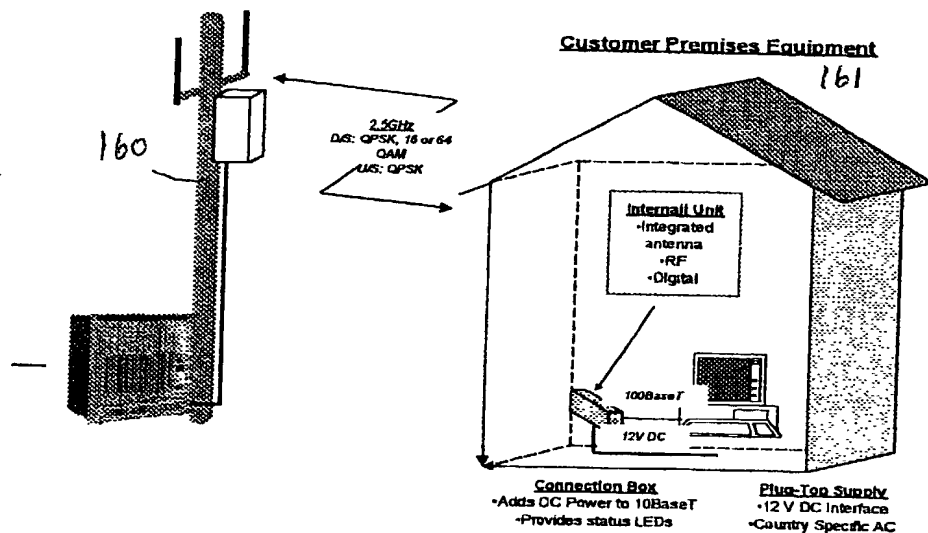


FIGURE 16

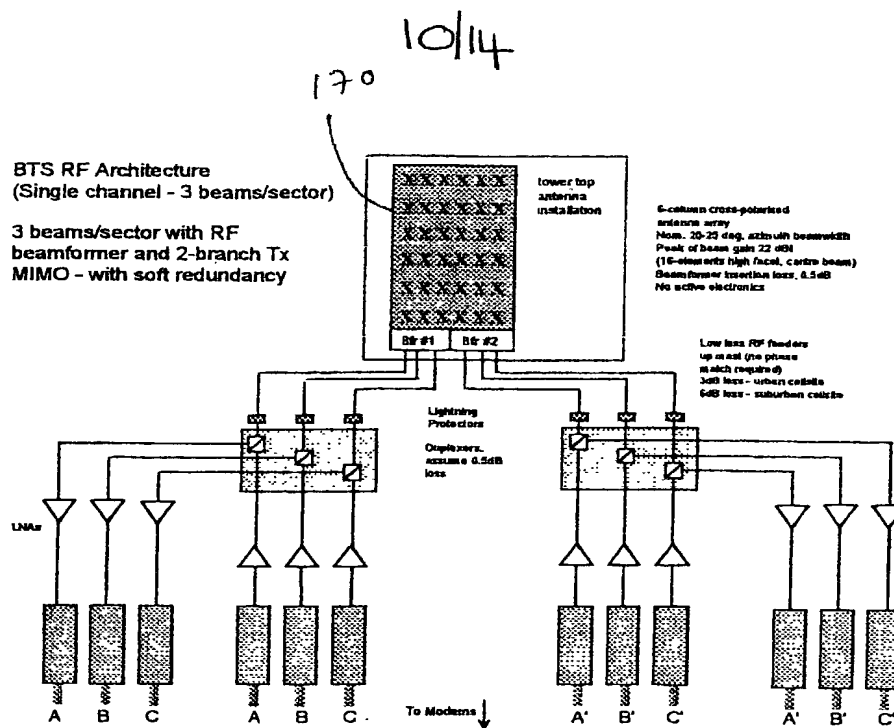


FIGURE 17

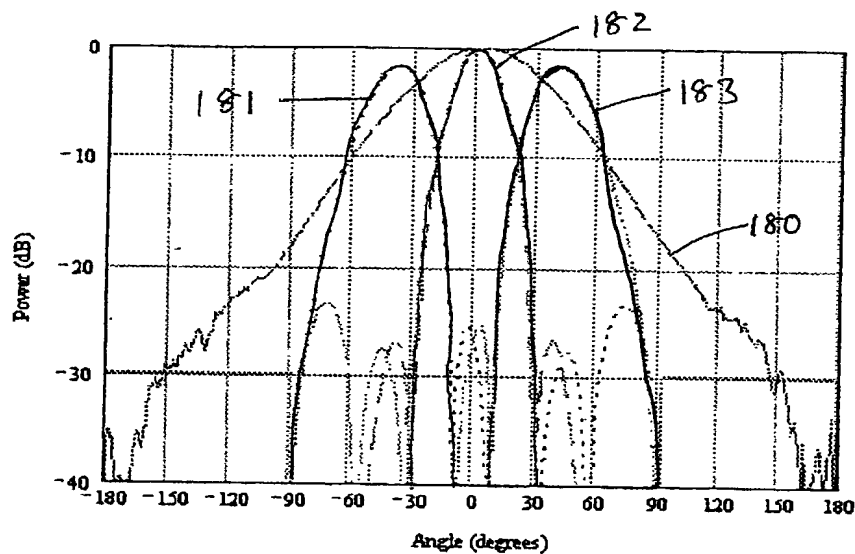
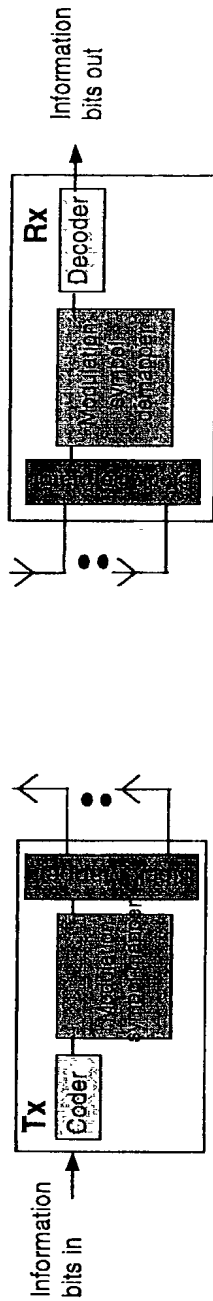


FIGURE 18.

Basic Space-Time Coding Techniques

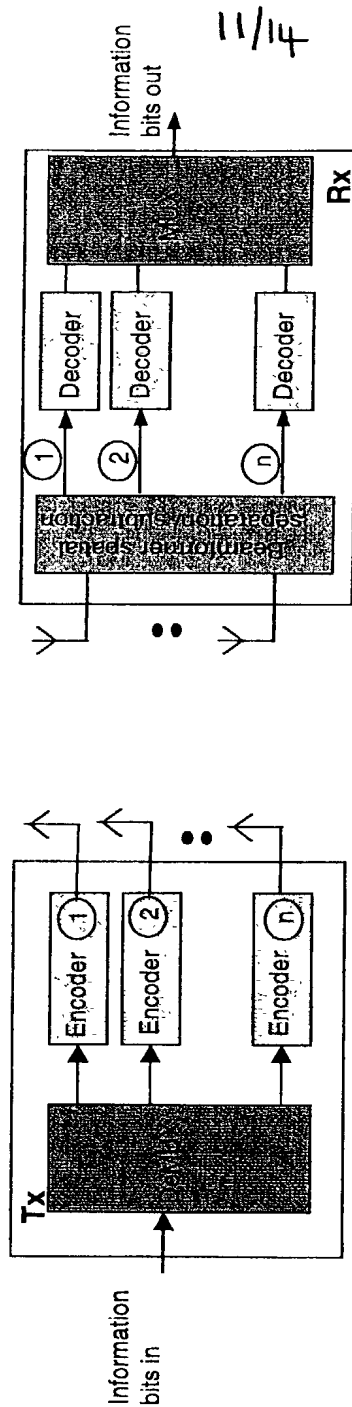
Space-Time Block Coding (STBC)

- defined for 3G



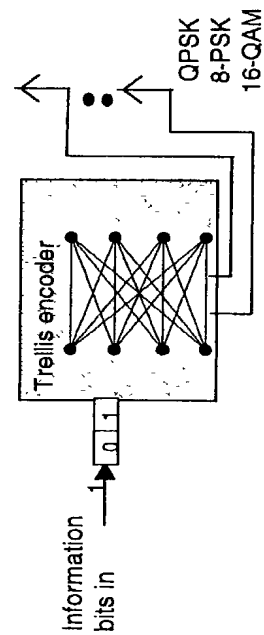
Layered Space-Time (BLAST)

- more applicable to fixed/nomadic



Space-Time Trellis Coding (STTC)

- suitable for both mobile and fixed



Log-Likelihood Ratios ('soft metrics')

Figure 19

Feedback STC - Separated Subchannels

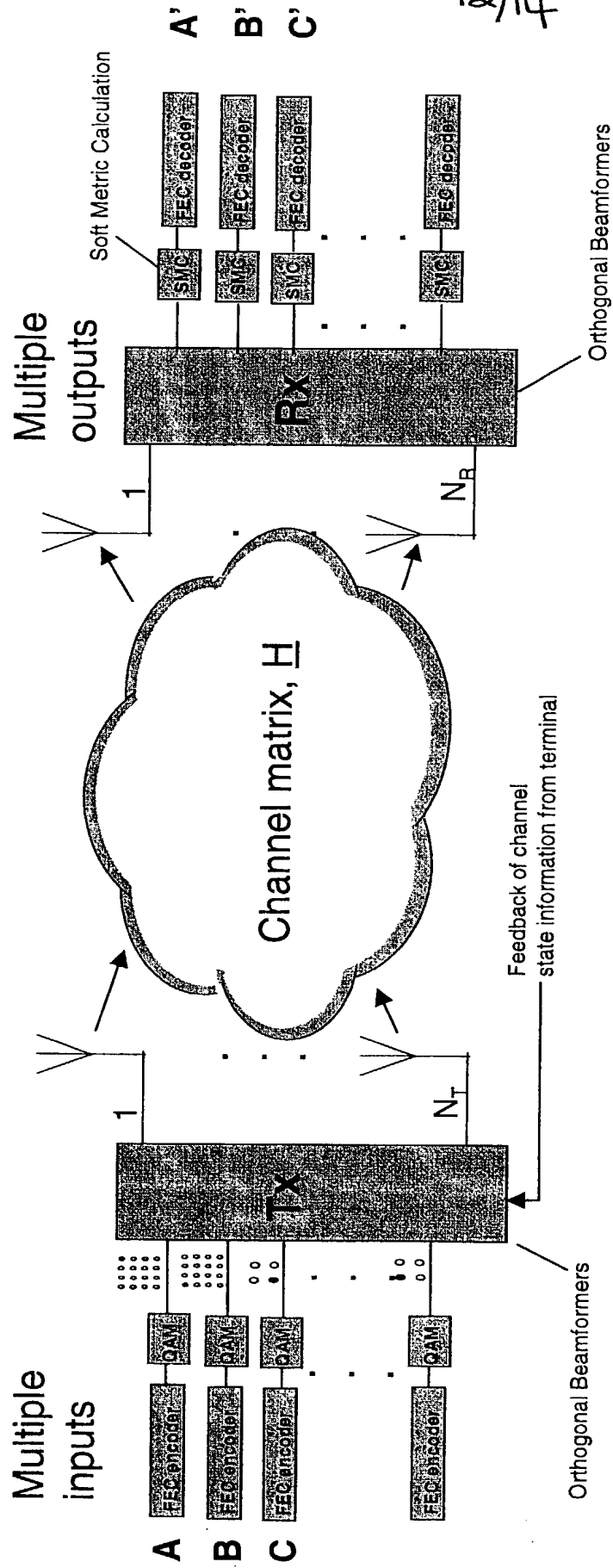


Figure 20

Spatial Multiplexing STC

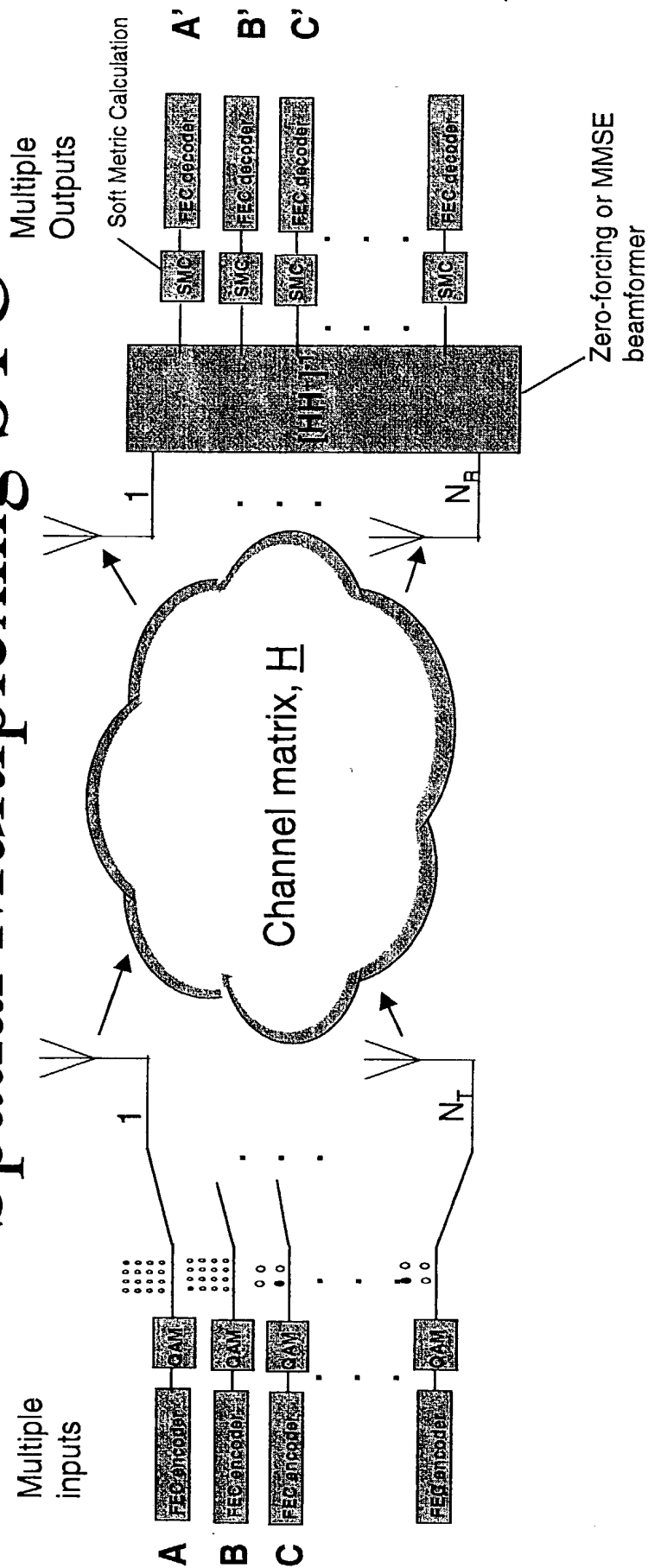


Figure 21

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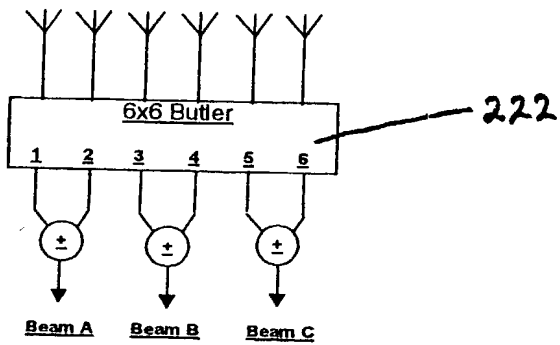


FIGURE 22

[Handwritten musical notation]

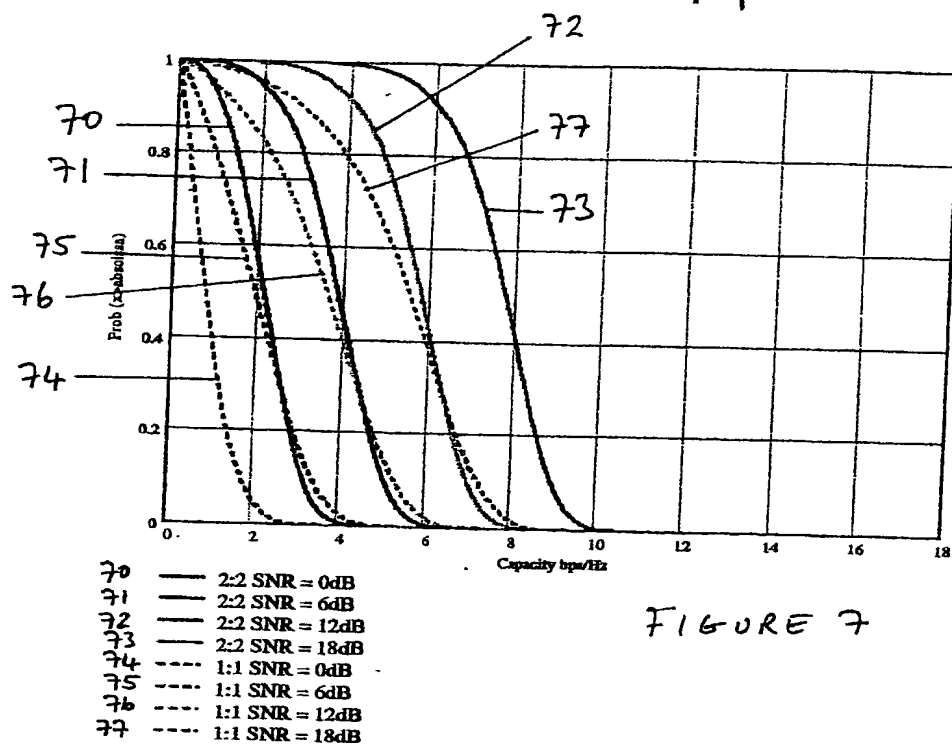


Figure 7 – Capacity for 2:2 space diversity MIMO system with the basestation antennas (transmitter) completely correlated and the mobile completely uncorrelated.

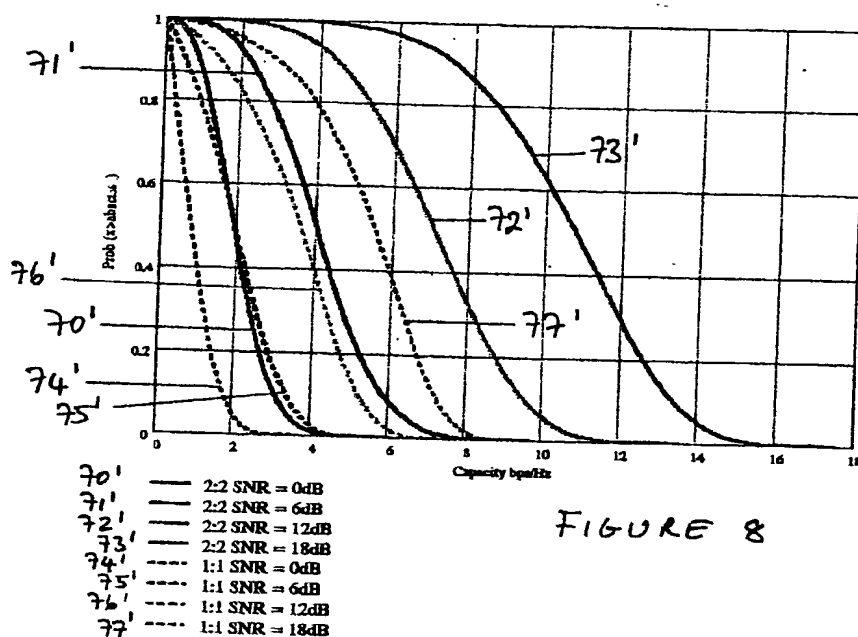


Figure 8 - Capacity for 2:2 polarisation diversity MIMO with no polarisation conversion in the environment